



Australian Bureau of Statistics

CensusAtSchool Australia

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Resources



CaSQ 9C - The Birth Month Paradox (IWB)



You can download this activity as a Notebook file using the link at the bottom of the page.

Task:

The Birth Month Paradox

If you selected any 5 people at random, what do you think would be the chance that they shared the same birth month?

If you did this 100 times, which number below would be the closest to the number of times there would be a match?

0	10	20	30	40	50	60	70	80 or more
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In this activity, 5 people in your group will be randomly selected and their birth month checked.
Every time there is a match it will be recorded as a success.
The total number of successes will also be recorded as a percentage of the total number of trials.

Click on the paperclip link below to make a start.



Shhh

Here is the answer
statisticians predict you will get.
Check it when you have
finished the activity



trial number	% success	cumulative total	1=success 0=failure
1	100%	1	1
2	50%	1	0
3	33%	1	0
4	50%	2	1
5	60%	3	1
6	67%	4	1
7	71%	5	1
8	75%	6	1
9	78%	7	1
10	80%	8	1
11	82%	9	1
12	83%	10	1
13	85%	11	1
14	79%	11	0
15	73%	11	0
16	69%	11	0
17	71%	12	1
18	72%	13	1
19	74%	14	1
20	70%	14	0

The Birth Month Paradox

Random Number
6
8
9
4
4
4
5
4

reserve numbers
in case of doubles

Instructions to randomly select groups of 5

- Count the number of participants in your group.
At the same time give each person a number starting with 1, 2, 3, etc.
- In cell J2 enter the formula `=RANDBETWEEN(1,x)`
Replace **x** with the total number in your group.
Fill Down to J6 or Copy to all cells (J2:J6)
Repeat the formula for cells J7 to J9
- Participants whose numbers are shown in black stand up.

NOTE: blue cell numbers can be substituted for numbers that appear more than once.

- Each person standing states their birthmonth
- If there is a match show a 1 in column D for the correct trial number. For no match enter 0
- Press Enter.

NOTE: this will generate a new set of random numbers.

- Repeat from step 3 above until you have done at least 20 trials

- Discuss the shape of the line and the % success rate after 20 trials
- What would you expect after 100 trials?
- Check the answer on sheet one.
- Were your results close?

Download the Activity:



CaSQ_9C The Birth Month Paradox (IWB).notebook
(Notebook document 18 KB)



CaSQ_9C The Birth Month Paradox (IWB).xlsx
(Exl document 15 KB)

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